

Community Perceptions of Toxic Stress: A Phenomenological Approach

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Abstract

Background: Toxic stress involves life course exposure to adversity without adequate support or protective factors. This adversity begins in childhood and continues through adolescence and adulthood, and may occur in form of abuse, neglect, exposure to violence or prolonged economic hardship that results in protracted biological and psychological alterations in the lives of affected persons. These alterations have negative consequences for persons' overall health, well-being, and positive life course progression. Research indicates that the presence of toxic stress may be more detrimental across the life course for persons from African American populations living in poor, stress-filled communities. The purpose of this study was to ascertain the perceptions of African American adults regarding stress and traumatic events occurring in their environment.

Methods: A phenomenological approach was used to gather information on African American participants' interpretations of their lived experiences regarding stress and traumatic events within their lives. Participants aged 18- 70 years were recruited from a near eastside community in Columbus, Ohio because this community has a large number of African American adults and experience a high incidence of stressful and traumatic events that occur. A business owner in the community was a gatekeeper who helped to recruit participants for the study. Participants signed up for the date and time that was convenient for them. Focus groups were conducted with participants by two advanced practice mental health nurses and two senior nursing students. A neighbor provided the location where the groups were conducted. Sessions were videotaped, transcribed, and analyzed for emerging themes regarding participants' health.

Results: The emerging themes included the high amounts of violence and lack of resources in their community that have led to constant high levels of stress and anxiety, concern about how

this affected children as well as themselves, and providing help to children and adolescents to prevent harm.

Conclusions: Results from this phenomenological study supports literature that toxic stress can lead to poor overall health. Additional studies need to be conducted within similar communities in order to further understand the effect that toxic stress has on African Americans within community settings.

Chapter I: Statement of the Problem

Introduction

Many different forms of stressors, both big and small, are a part of everyday life. While some events or situations may seem more significant than others, every person experiences stress differently, and the level of impact that this leaves can vary greatly. Individuals from low-income communities tend to have experienced greater levels of stress in their everyday lives than others from the time they are very young. These stressors often include exposure or involvement in violence, a lack of available resources, and the effect of the community atmosphere on the lives of the children. This buildup of negative experiences is directly related to the prevalence of toxic stress within this population and community.

Toxic stress is the buildup of high amounts of stress throughout the lifespan, without the proper protective factors that are necessary to combat this stress. When people are exposed to high levels of adverse events, such as violence, abuse or economic hardship from a young age without a strong community or adult presence to support them, the body's stress response system is constantly activated for a prolonged period of time. Not only can this have a negative impact on the mental health of these individuals throughout their life, but it can also play a role in the physical growth and development of the individual as they progress throughout their lifespan. When these impacts of toxic stress are combined with a lack of available mental and physical health resources in low income communities, these negative impacts can be very detrimental to individuals' overall health and the wellbeing of the community as a whole (Shern et al., 2014).

Due to the perceived high amounts of stressors present and lack of resources available in the community, a near east side community in Columbus, Ohio was identified as an area that would benefit from an analysis of their perceptions of the impact of prolonged stress.

Participants were led in discussions about their exposure to stressors over their lifetime and the perceived impact it has had on their lives. In previous research, extreme levels of prolonged exposure to stress has been correlated with the most severe health outcomes, such as increased risk for severe depression, chronic disease and substance abuse. While it has been shown that having involved and caring parents can help to negate some of the effects of this stress, it is also important to look at the other resources available to the group to help combat this constant strain on the wellbeing of the community.

Purpose of the Study

The purpose of this study was to ascertain the perceptions of African American adults age 18-70 regarding stress and traumatic events occurring in their environment over their life course. The focus groups that were conducted allowed for individualization, which permitted participants to contribute their understandings of their own lived experiences and helped to gain insight into the impact of toxic stress of their lives.

Significance of the Study

Toxic stress can have a lifelong impact on overall mental and physical health and wellbeing, especially of those in low-income communities. It is important that these overarching themes, which were focused on violence, lack of resources and children, are shared with the community and its leaders in order to best identify the areas of need within their group. By understanding these adversities that come from lifelong toxic stress and the impact of toxic stress occurring within people's lives without any form of abatement, we can better help to serve these communities in terms of their overall health and wellbeing.

Theoretical Framework

The toxic model of stress was used as the basis of the analysis of this study. Toxic stress involves prolonged exposure to adversity without adequate support or protective factors, with the exposure likely beginning at an early age. This adversity can be in the form of abuse, neglect, exposure to violence or prolonged economic hardship, which can all have long lasting biological, psychological and social impacts. The presence of toxic stress can serve as an indicator of overall health and wellbeing.

This study involved qualitative work grounded in phenomenology. The qualitative information came from focus groups, which allowed for individualization in the responses and results that were received. Through the phenomenological approach, participants were able to bring their lived experiences to the discussion and contribute their own perspectives of the impact of stress on their lives. The phenomenological approach was used to help gain understanding of the participants backgrounds and their beliefs surrounding toxic stress. A phenomenological approach to a research study is used to better understand participants perspectives of a particular situation. The objective of this study was to gain a better understanding of the perceptions of participants surrounding their own toxic stress and lived experiences, and therefore the phenomenological approach was the best choice for this study. In addition, it was decided that a qualitative study was to be conducted first, as qualitative research and data serves as a basis for more statistical and specific quantitative research. The aims of this study will be discussed in the next section, and were developed according to the phenomenological approach.

Aims/ Research Questions

The aim of this study was to gain an understanding of the perceptions of African American adults in a low-income community surrounding the traumatic events that have occurred over their life course and the stress that has emerged as a result of those events. From their perceptions, inferences can be made about the impact of toxic stress on overall health and wellbeing, along with the areas most in need of support and resources in the community. This aim aligns with the theoretical frameworks of toxic stress and phenomenology. In order to understand the aims and terms of this study, a definition of terms will be provided below.

Definition of Terms

Certain unique terms used in this study based on the purpose of this study and the model of toxic stress. These defined terms are life course, toxic stress, overall health and phenomenology. They are defined as follows:

- **Life course** can be defined as the sequence of stages of growth and development that an individual progress through during their lifetime. This can involve major events or milestones that are expected to occur during specific stages of life.
- **Toxic stress** involves the prolonged exposure to adversity without adequate support or protective factors. These stressors can be in the form of abuse, exposure to violence, neglect or economic hardship, and can leave long-term negative impacts on the physiological and psychological health of impacted individuals.
- When used as a measurement in this study, **Overall health** is defined as the condition of an individual's mental and physical state, along with the absence or presence of illness or injury. In addition to the absence of illness, health also

includes an individual's active participation in meaningful social roles (Shern et al., 2014).

- **Phenomenology** refers to an individual's interpretation of a lived experience. A phenomenological approach was used in this study to help better understand the participants perceptions of stress and their lived experiences.

Chapter II: Literature Review

Introduction

This literature review was conducted using PubMed and CINAHL databases from The Health Sciences Library's Database at The Ohio State University. The key words and phrases searched in the database were 'toxic stress,' 'community,' 'violence,' 'mental health,' 'trauma,' 'African Americans,' 'life course,' and 'phenomenology.' Articles were then sorted within the database by year and relevancy to this topic. All articles that were selected were from 2010 or later. Approximately 50 abstracts were reviewed, and 17 were selected for inclusion in this review of literature. The articles focused on four main topics, and are divided in to these categories below: life course, toxic stress, overall health and phenomenology.

Life Course

In terms of this study, life course is defined as the sequence of events that an individual will progress through throughout the duration of their lifetime. When studying or analyzing the prevalence and impact of toxic stress on an individual or community, it is imperative that different factors are considered throughout the entire lifetime, from birth to the time of the study and even beyond. The importance of analyzing toxic stress throughout the lifespan is proven in research that shows the long-term impact that exposure to stressors can have on an individual, especially when referring to the lifelong impact that exposure to stressors and violence can have on children (Hillis et al., 2017). More than half of the children in the world today are exposed to violence each year, either through direct experiences or indirect experiences that they have witnessed. While violence and other extreme stressors can occur in many different forms, one thing that they all have in common is that they have a strong potential for long-term negative consequences. While it is important to look at the immediate impact of this stress on the child, it

is vital to remember that they will likely carry the effects of this exposure with them throughout their lifetime. Evidence by Shonkoff et al. (2011) emphasizes this through the concept that many adult physical and psychological diseases can be regarded as developmental disorders that begin in childhood, and the negative impacts of these diseases could be assuaged by the presence of early exposure to toxic stress.

The prevalence of research surrounding the lifelong impacts of toxic stress continues to increase, as there is a global push to increase awareness and education on mental health. In this research, it has been discovered that not only can toxic stress have a negative impact of the mental health of individuals as they progress throughout their life, but it can actually be detrimental to their brain development and adult productivity (Garner et al., 2012). In turn, the American Academy of Pediatrics (AAP) has supported a push to mobilize the pediatric healthcare community to research and innovate new methods and strategies to mitigate the negative impacts that toxic stress can have on the growth and development of children. These strategies can include early and frequent screening by health care providers, along with continued and increased advocacy for those children especially susceptible to the impacts of and exposure to toxic stress. In addition to the push to ameliorate developmental delays by the AAP, according to a study by Nurius et al. (2015), the growing research has indicated that early exposure to toxic stress can amplify a chain reaction of extreme, overwhelming stressors and negative impacts on overall health later in life into older adulthood. Adversity in early childhood can strongly worsen the well-being of individuals throughout their life, especially when combined with other elements such as economic disadvantages and toxic stress in adulthood.

Toxic Stress

Today, one of the most prevalent topics our world in terms of healthcare is the increasing incidence of mental health diagnoses and disorders. Just as in the past extensive research has been done to combat concerning physiological diseases and outbreaks, research is needed to better understand mental health and the impact that prolonged stress has on the overall wellbeing of the world's population today (Shern et al., 2016). This study is focused on toxic stress in regard to its development and impact on individuals within a particular community. Toxic stress can be defined as the prolonged exposure to stress without protective factors present to prevent buildup of these stressors. (O'Connor, 2017). While it is largely individual in its development and negative consequences, toxic stress is also largely impacted by the community and the supportive factors that are available to community members. Stable relationships and adult influence is needed within communities to buffer stress away from children, and community-wide programs need to be put into place to alleviate the impact of some stressors for community members of all ages. In addition, in order to begin developing strategies to combat the development of toxic stress within communities, input is needed from the residents in terms of what the goal of the interventions will be.

The impact of toxic stress on an individual can vary by age, gender, and the type and timing of stressors (Cameron et al., 2017). Not only does toxic stress have physical and mental health impacts, but it can also impact academic achievement and the likelihood that an individual will face legal trouble in their lifetime. When an individual is exposed to prolonged stress, the brain activates the stress response system throughout the body, which can be manifested in the form of increased blood pressure, heart rate and stress hormones. When there are protective factors in place, such as a supportive family or community resources and positive outlets

available, the physiological effects of the activated stress response system can be returned to baseline without any major consequences (Harvard, 2017). However, when these protective factors are not in place, the stress response system is left stimulated for a prolonged period of time, which can cause weakened physiological systems with lifelong repercussions. The consequences of this toxic stress have an accumulative toll, which can be progressively damaging to the individual if no interventions are performed to mitigate the effects.

Overall Health

Throughout the research, the phrase “health” is referenced. This refers to not only physical and physiological health, but social and psychological health as well. In addition, health is defined as more than the absence of disease (Shern et al., 2014). The World Health Organization’s definition of health also includes the “ability of an individual to realize their full potential through active participation in meaningful social roles.” Some indicators of overall wellbeing that are outlined include life expectancy, educational attainment, and freedom over life choices. Increasing levels of toxic stress can cause individuals to fall behind in these dimensions along with several others, which in turn can cause the community as a whole to suffer in the overall wellbeing of its residents. For example, food insecurity is regarded as one of the biggest stressors for many low-income communities today (Canales et al., 2015). The high levels of food insecurity not only increase already high levels of stress, but inadequate nutrition also contributes to decreased levels of physiological health and healing and can inhibit individuals from being active members in their communities. Another possible major stressor, abuse in childhood, has been shown to have long-term impacts on the mental and physical wellbeing of women in low-income societies, along with being associated with problems in future employment (Cambron et al., 2015).

Recently, there have been developments made in the ability to provide “trauma-informed care” to adult patients, both in terms of their mental and physical healthcare (Oral et al., 2016). However, there is still a great amount of room for improvement in terms of provide trauma-informed care for those who have faced adversity and toxic stress in childhood. The early identification of childhood trauma by healthcare providers is vital in providing the best multi-faceted healthcare for individuals of all ages as they progress through their lifetime. In addition, the National Research Council and the Institute of Medicine have determined that the overall health and wellbeing of young people has become a priority for healthcare providers across the country (Power, 2010). They have identified the areas of mental, emotional and behavioral development as vital to overall health in today’s society, with an emphasis on initiatives that promote mental health, and mental wellbeing is interconnected with all other areas of health. For example, research by Chung et al., (2016) has identified that children exposed to toxic stress, especially those living in poverty, are more susceptible to childhood and adult physiological health problems such as asthma and heart disease. Despite the evidence that mental health and psychological factors can play a negative role in the healthy development of all individuals, there is still a vast need for the implementation of screening tools and interventions on a regular basis to help combat the detrimental effects of a buildup of toxic stress.

Phenomenology

A phenomenological approach was used in this study to help better understand the participants’ individual perceptions of their lived experiences and stressors. Through phenomenology, participants are able to take the time to share their own distinct experiences, rather than feeling that they have to conform to a set standard of answers or beliefs. This is very helpful in terms of qualitative research on mental health, as it emphasizes individual experiences

and the patient-centered care approach, which has become highly valued in mental healthcare (Picton et al., 2017). There are two different forms of the phenomenological approach that can be used to interpret and better understand health, particularly mental wellbeing. The descriptive approach is used to help researchers and readers better understand an area that is new or unclear, whereas the interpretive approach helps to understand a lived experience in relation to other members of the group or other cultural and individual influences (Matua et al., 2015). Both of these approaches are important to understand, as using the correct method can help to improve understanding of information and its implications in terms of putting it into practice, particularly in nursing care. While the phenomenological approach is largely regarded as one of the most appropriate theories for mental health research, it is commonly used incorrectly in terms of researchers incorrectly using the phenomenological methodology, and therefore risking improperly interpreting or using information (Matua, 2015). The phenomenological approach is vital to nursing and mental health research, but it is imperative that the methodology is understood and used correctly to ensure best practices and outcomes for those involved.

Summary

Throughout the different areas of research, common themes emerged surrounding the importance of continued research on the implications of toxic stress. While there have been some improvements in research surrounding the impact of stress of the lives of adults, progress still needs to be made on gaining insight into the influence that prolonged exposure to adversity and stress from a young age has on children as they progress throughout their lives. It is important to analyze information on toxic stress through a life course approach, as all points of the lifespan are interconnected and rely heavily on the development and lived experiences in previous periods of life. A phenomenological approach is also beneficial when used to collect qualitative

data on toxic stress, as adversity and the impact of stress is very individualized, and hearing the lived experiences of individuals first hand can help to identify the greatest needs in different communities. In addition, recognizing that toxic stress without adequate protective factors not only impacts mental health but also influences physiological and overall health is vital in helping to better serve individuals who have faced adversity throughout their lives, particularly those in disadvantaged communities who do not have the necessary resources available to combat these potentially negative consequences.

Chapter III: Methodology

Research Design

A phenomenological approach was used in this study to allow for the individualization of responses and ideas from the focus group participants. A phenomenological approach involves encouraging individuals to share their lived experiences and their thoughts surrounding a particular topic, rather than conforming their responses to a set list of answers. In this particular study, participants shared their unique views on stressors and areas of need within their community through open conversation with minimal guiding intervention from the moderators. This phenomenological approach contributes to the qualitative design of this study. The qualitative approach was used in this study in order to explore the underlying insights and beliefs of individuals related to the topics surrounding toxic stress.

Population and Sample Design

A total of 29 African American adult residents of the Near East Side community of Columbus between the ages of 18 and 70 participated in the focus groups. The participants were recruited through word of mouth and advertisements in the area. Participants signed up for a focus group based on the date and time convenient to them. Demographic information was recorded as the groups occurred. The focus groups were conducted in the community space inside of the barber shop owned by a community leader who had assisted with prior research and outreach programs.

Data Collection

Semi-structured focus groups were conducted for this study. The 29 total participants were involved in one of two focus groups, and the two focus groups were led by the same moderator who asked the same questions in each focus group based on a predetermined script.

The participants would occasionally diverge from the topic and the moderator, while not ignoring their conversations, would redirect them to the prepared questions. Each focus group lasted for about one hour, including the few minutes at the beginning of the groups that were taken to fill out demographic data. At the completion of the focus groups, participants were encouraged to speak to the moderator if the discussions had brought about any emotions that they felt they needed to discuss with a mental health care professional. In addition, participants were given bus passes and a monetary gift card at the completion of the groups.

The focus groups were recorded using a small electronic recording device. After the completion of both groups, the recorders were sent to an outside transcription company, who compiled one continuous transcript of the two focus groups. The transcripts were then evaluated for content surrounding the ideas of toxic stress, and common themes were pulled out and further analyzed for the major ideas regarding the beliefs about mental health and toxic stress in this particular community. These themes were then used as the basis for evaluating the general principles about mental health and the biggest needs in terms of community resources and healthcare for this area.

Summary

This study used a phenomenological approach to qualitative research, and was based on the lived experiences and beliefs of African American adults in a low-income community in Columbus. Two focus groups were conducted in the Near East Side community of Columbus to identify themes and beliefs of group members surrounding toxic stress and the greatest areas of need and concern in this community. The focus groups were recorded and transcribed through an outside organization, and the transcripts were later analyzed for major common themes that emerged between the two groups.

Chapter IV: Results

Transcripts from this study were analyzed for common themes surrounding participants beliefs on the presence of high levels of stress in their community. Transcripts from the two focus groups were compared, and the major themes that were extracted from each group were very similar. This led to the identification of three major sources of stress in this particular community. The three chief sources of stress that emerged were the high amounts of violence, the lack of resources available in the community, and the constant concern about the children and young people in the area. Exemplar participant quotes that highlight these major subjects are listed in Table 1 below.

One of the biggest themes that emerged was the high level of violence that members of this community are exposed to from a very young age. While this aspect is true of many low-income communities, participants were able to provide examples of their biggest sources of and concerns about violence in this particular group. Some of the forms of violence that these individuals could have been exposed to since childhood included domestic abuse, severe neglect and gang activity that involved very young children. While some community members were not active participants in violent acts themselves, they were still aware of the dangers of the high amounts of violence that seem to occur in every part of their community today. Even areas that they used to deem protected from exposure to these activities are now dangerous, along with the historically at-risk areas. This violence is something that they have been accustomed to since childhood and were often not protected against, however participants all agreed that the perceived amount of violence against people of all ages has increased drastically throughout their lifetimes. Another important aspect of violence that was mentioned was the idea that community members do not know who they can trust anymore. People such as the police or teachers, who

they used to rely on for support, can no longer be depended upon. This lack of support only serves to further increase the buildup of stress caused by violence, which leads to overall increases in the prevalence of negative impacts of toxic stress.

The second major theme that emerged was the lack of resources available in the community to help mitigate the constant high levels of stress and anxiety that community members are exposed to. Many focus group participants mentioned that when they were children, there seemed to be many more resources available to the community, such as after-school programs, programs to assist with employment, and community centers. These community centers provided services such as health education, vaccination administration, and job-specific skills training that would be needed for entry level jobs. With the disappearance of these community resources, individuals are often left to fend for themselves in terms of their mental and even physical wellbeing. They also mentioned that even if there are new programs that are being started, they often are hard to access or lose funding quickly, making it difficult to make a long-lasting impact on community members. Many of the group members mentioned that they were aware that the high amount of stress that they have been exposed to throughout their lives has the capability to lead to negative impacts on overall health, but they are unsure of how to combat these stressors or help to reduce the toxic effects.

The third major theme that emerged from the focus groups centered around concern for the impact of toxic stress on the children in the community, and how the negative effects on children subsequently affected the adults as well. This common concern for children was shared between the two focus groups, however there were some differences in the way the tone of the conversation about children changed throughout the groups. One focus group concentrated on how the children are the ones who suffer the most from this increasing prevalence of toxic stress

in this community. The adults in the community are suffering from the negative lifelong physical and mental health impacts of toxic stress, and are in turn not present as positive role models or sources of support for their children. The children are forced to grow up very quickly, and are exposed to violence and many other negative influences from a young age without the protective factors that are necessary to combat toxic stress. The other group largely focused on how the children were one of the main issues in the community. Many of the elderly participants stated that they were afraid to walk outside by themselves, because of the perceived increase gang activity and violence by young people. Even though these two conversations moved in slightly different directions, they both centered around the idea of a lack of role models for children and how this accelerates the cycle of violence, poverty, and mental health problems within their community, which can be linked back to the early exposure to adversity without protection.

High Amounts of Violence	<ul style="list-style-type: none"> • “Now it’s bad all over, no matter what side, where you live” • “I’m too afraid to go out” • “Shooting through windows, hitting children” • “It seems like the older we get the more killings and violence” • “We didn’t say more policemen because we see more cops killing kids”
Lack of Resources in the Community to Mitigate the Constant High Levels of Stress and Anxiety	<ul style="list-style-type: none"> • “They’re talking about closing the neighborhood house, where you can go to talk to people, it’s been around for generations” • “They eventually cut the programs anyway” • “When my kids were coming up, they had a job. They could get a job for the city or somewhere...they don’t have that no more.”

<p>Concern About How Stressors Have Affected Children as Well As Adults</p>	<ul style="list-style-type: none"> • “The kids can’t be kids no more, they gotta be watched every minute of the day” • “Schools being the lowest rating in Columbus” • “Children’s services is not set up like the way it used to be” • “They need somebody to talk to when things aren’t going right at home. Or they’re hungry, going to school hungry.” • “It’s either jail or children’s services or death”
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Table 1: Participant Quotes on Stress

Chapter V: Conclusion and Recommendation

Summary of Findings

As focus group participants discussed their perceptions on stress and the areas of need within their community, three common themes emerged as the major factors in toxic stress between the two groups. In this low-income community, residents are exposed to high amount of adversity from a very young age without proper protective factors, which is often in the form of violence, neglect or abuse. In turn, young children frequently become involved in violence or gang activity themselves as they do not often have positive parental or adult influences to steer them away from these activities. Not only does this have a negative impact on the children of the community, but it also leads to a further divide between young people and the older adults in the community, making members of both groups feel unsafe. There also seems to be an increasing lack of resources available to community members to combat the effects of prolonged toxic stress, which prolongs the cycle of poorer mental, physical and overall health and wellbeing for these community members.

Conclusion

The findings of this phenomenological study support literature and research that emphasizes how toxic stress can lead to poor overall health and wellbeing. It is important that these overarching themes that were found through these focus groups are shared with community members and leaders in order to best identify the specific areas of need within their population. In this particular group, as many of the major themes and stressors were connected to children and the lack of supportive resources, it is important to work to connect leaders with external organizations and programs that are able to provide assistance and guidance in implementing these much-needed programs to support community members positive life course development.

Limitations

This study was limited to two focus groups conducted in a low-income, predominately African American community in central Ohio. The participants were all African American, between the ages of 18 and 70 and were from roughly the same neighborhood. These focus groups were created and executed in collaboration with a local leader of the community, and information about the focus groups was spread through word of mouth by people who spent time around the barber shop that this leader owned. Therefore, the majority of the participants knew each other prior to the study and shared very similar backgrounds, without much variation in lived experiences. By understanding these adversities that come from lifelong toxic stress in low-income communities and the impact of the occurrence of toxic stress without any form of abatement, we can better help to serve these communities in need in terms of their overall health and wellbeing.

Implications

This study provided exemplars for the theory that toxic stress has a lifelong impact on the overall health and wellbeing of vulnerable individuals, especially for African American populations within low-income communities. Participants were able to identify common stressors within their community that have contributed to high levels of toxic stress for almost all community members, along with the greatest areas of need for improvement within their area. It is vital that these overarching themes that emerged throughout analysis of the focus groups are shared with community members, leaders and organizations that seek to implement programs in this area in order to best identify the areas of need in the community and to ascertain the most appropriate programs and interventions that can be put into place to attempt to serve this community. By understanding and sharing the adversities that come from prolonged toxic stress

and the impact of toxic stress occurring without any form of abatement, we can endeavor to better serve these communities in terms of lessening the negative impact on their overall health and wellbeing. While each community will have unique specific needs and major stressors, it can be assumed that there are many shared themes and foundations of toxic stress between communities with similar economic and social backgrounds. Therefore, the information learned through this study can help to delve further into the impact and perceptions of toxic stress in communities across the country.

Recommendations

This study reinforced the idea that prolonged toxic stress without adequate protective factors can have a significant impact on the mental and physical health and wellbeing of susceptible individuals. Further studies should be expanded to include different communities with various economic and societal norms and experiences in order to best identify common stressors that are present in the lives of those most impacted by toxic stress. In addition, it would be beneficial to conduct a more longitudinal study focusing on the implications of toxic stress on overall health and wellbeing in order to garner evidence on the direct correlations between these two subjects.

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